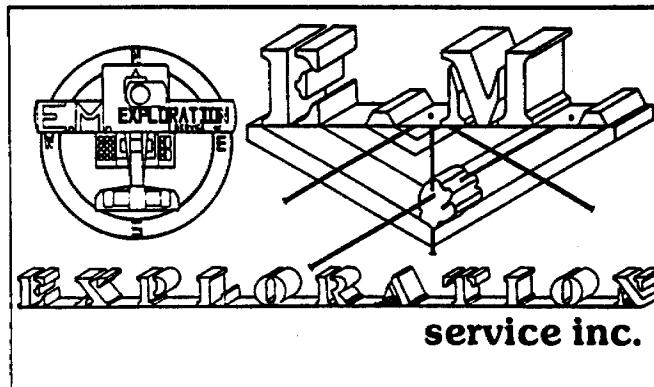




42A08SW0036 2.11855 BLACK

010

LINE CUTTING AND
ELECTROMAGNETIC (V.L.F.) AND MAGNETIC SURVEYS
BLACK TOWNSHIP
CARD LAKE PROPERTY
AMERICAN BARRICK RESOURCES CORP.
JUNE 1988



RECEIVED

NOV 22 1988

MINING LANDS SECTION

C. P. 24, Rouyn-Noranda (Québec) J9X 5C1
Tél.: (819) 762-5220



42A08SW0036 2.11655 BLACK

010C

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Electromagnetic Survey	Map1
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Electromagnetic Survey (Fraser Filter)	Map2

INTRODUCTION

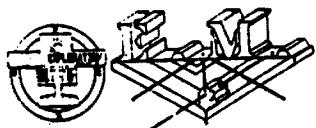
Under an agreement between American Barrick Resources Corp. and E.M. Exploration Services inc. in June 1988, a contract was given to E.M. Exploration Services inc. for the line cutting and geophysical surveys (magnetic and electromagnetic). The work was to be done on Card Lake property, belonging to American Barrick Resources Corp. and situated in Black township in Ontario. Detailed line cutting was done in order to be able to use geophysical instruments to determine the location of the geological conductors.

The VLF electromagnetic survey was performed with a view to detecting conductive zones possibly containing gold-bearing mineralization. On the other hand, the magnetic survey was used to gain a better understanding of the geological formations and rock structures and to see if any magnetic anomalies were associated with the different VLF conductors.

PROPERTY LOCATION AND ACCESS

The project took place in Black Township in Ontario, on the Card Lake property belonging to American Barrick Resources Inc.

The township is accessible by automobile: 10 km south of Ramore on route 11, turn west across from the Butler Lake truck stop and drive to Butler Lake. From there, drive 6 km of route 11 to Lake Errett, located in the south-eastern part of Card Lake property.



Card Lake property covers 35 claims:

1016324	503188	511672	1016337
1016325	503189	511673	1016338
1016326	503190	511416	1016339
1016327	503191	511144	1016340
1016328	503192	511145	1016341
1016329	503193	511417	1016342
1016330		515709	1016343
1016331		515706	
1016334		515707	
1016335		515708	
1016336		511671	

WORK CONDUCTED ON THE PROPERTY

a) Line cutting

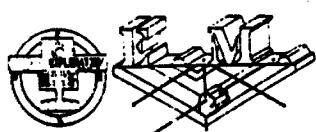
During the month of June 1988, 58.98 km of line were cut in Black township. The azimuth of the base and tie lines is 332°; these lines are 600 meters apart. The conventional lines have an azimuth of 62° spaced at intervals of 100 meters. It should be pointed out that near Lake Errett, some lines were cut 50 meters apart in an area where a drilling project one took place. All lines were chained horizontally, pickets were put up and painted every 25 meters.

b) Geophysical surveys

Two different geophysical surveys were performed in July: a VLF electromagnetic survey and a magnetic survey, over a total of 49.92 km.

1. VLF electromagnetic survey

The VLF (very low frequency) electromagnetic survey was conducted with the use of a Geonics E.M. 16 machine. The frequency was N.S.S. Indianapolis, with the operator pointing the instrument north-east and taking a reading every 25 meters.



2. Magnetic survey

The magnetic survey was used to measure the total field and the vertical gradient. The survey was performed with an E.D.A. Omni IV magnetometer, considered precise to 0.1 gamma.

Daytime magnetic variations were corrected by computer with the help of a base magnetometer taking an automatic reading every minute. This machine was kept on the property during the entire length of the survey. Readings were taken every 25 meters, except where anomalies were found. In such cases, readings were taken every 12.5 meters in order to locate magnetic peaks.

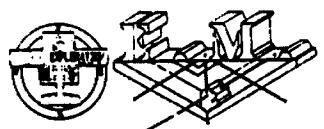
DETAILS ON THE GEOPHYSICAL METHODS

The VLF electromagnetic method is normally used in heavy overburden areas which are not particularly conductive. Their aim is to bring out the geological structure by detecting any faults, shear zones or electrically conductive sulfide or graphite deposits.

Conductive zones are pointed out by amplitude variations caused by different factors: conductivity of the overburden, general conductivity of the area depth, angle of the zone compared to the emitting station and geometry of the zone.

Normally, a VLF anomaly does not in itself constitute a drilling target. It must be confirmed through other geophysical methods or geological data.

When conducting a VLF electromagnetic survey, it is advisable to use two perpendicular emitting stations. This helps to detect a greater number of conductors. Because of the distortion of the field at the extremities of a conductor, false anomalies may be obtained from a station situated at the end



of a long conductor. A second station, perpendicular to the first, helps to confirm the presence of an anomaly.

Mineral concentrations have a more or less pronounced magnetic sensitivity and this causes the earth's magnetic field to vary.

Print-outs of readings taken systematically on the property show areas of greater or lesser magnetic response, which points to geological formations of different magnetic sensitivity. What is more, by measuring the vertical gradient of the earth's magnetic field, higher resolution is obtained, making interpretation easier.

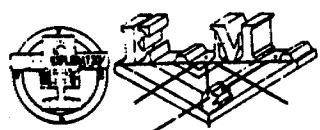
Magnetite and pyrrhotine are highly magnetic minerals which are generally, although not necessarily, associated with economic minerals. In other words, the association of a magnetic anomaly with an electromagnetic or induced polarisation anomaly may be important, but is not essential.

DECLARATION FOR STATUTORY WORK PURPOSES

I, the undersigned, Mario Duquette, hired by E.M. Exploration Services Inc., do make the following declaration:

During the month of June 1988, a line cutting project covering a total of 58.98 km was conducted and a magnetic survey performed over 49.92 km. The object was to measure the total magnetic field of the Earth and calculate the vertical gradient. An electromagnetic (VLF) survey was also taken over 49.92 km on a single frequency, N.S.S. Indianapolis.

Card Lake property is located in Black township in Ontario. It is composed of 35 claims, numbered as follows:



1016324	511672
1016325	511673
1016326	511416
1016327	511144
1016328	511145
1016329	511417
1016330	515706
1016331	515707
1016334	515708
1016335	515709
1016336	503188
1016337	503190
1016338	503191
1016339	503192
1016340	503193
1016341	503189
1016342	511671
1016343	

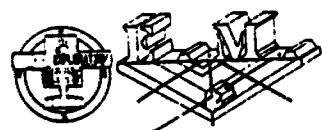
a) Description of the VLF electromagnetic survey method

Instrument : E.M. 16 by Géonics
Interval : 25 meters
Orientation : North-East
Emitting station: N.S.S. Indianapolis

b) Description of the magnetic method

Instrument : OMNI IV by E.D.A. with base magnetometer on automatic reading (PPM 375 by E.D.A.) at one-minute intervals in the center of Card Lake property.

Precision : 0.1 gamma
Interval : 25 meters
Close-up : 12.5 meters



c) Operator

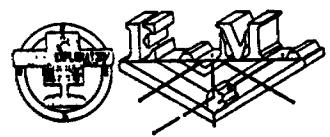
Magnetic survey
Pierre Bérubé
187, Fortin St.
Rouyn-Noranda (Quebec)
J9X 5M4

Geological technician

Electromagnetic survey (VLF)

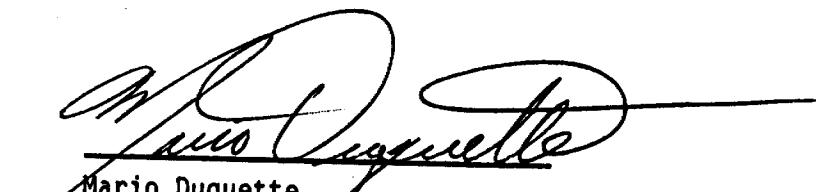
Pierre Bérubé
187, Fortin St.
Rouyn-Noranda (Quebec)
J9X 5M4

Geological technician

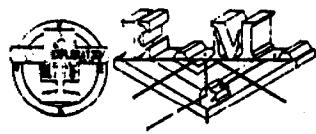


DECLARATION

I the undersigned, Mario Duquette, residing at 304, Beauchastel Road, Granada, in the province of Quebec, obtained a college-level diploma in geology from the Collège de l'Abitibi-Témiscamingue in 1985.



Mario Duquette
MARIO DUQUETTE technologue



CERTIFICATE OF QUALIFICATION

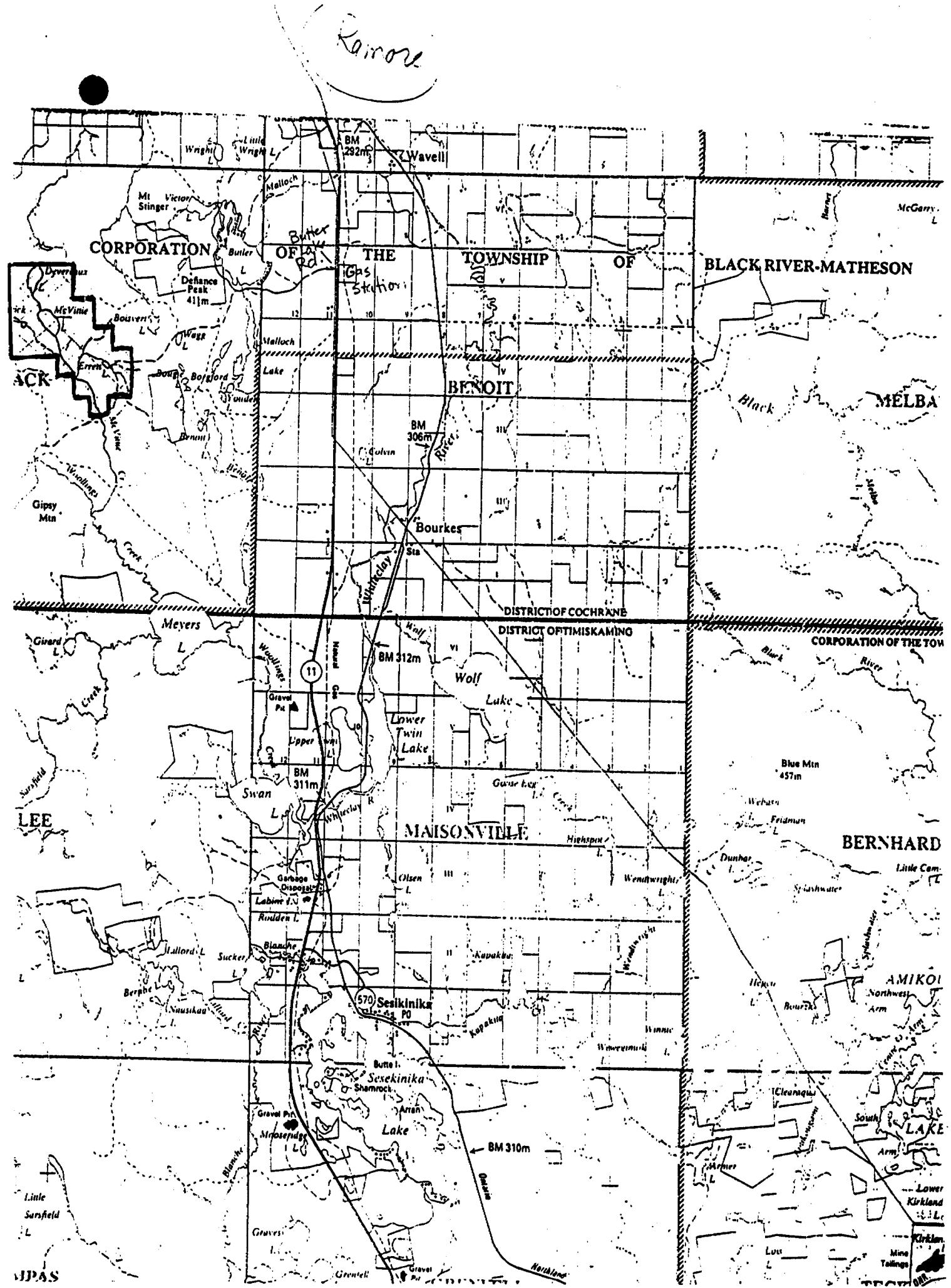
This is to certify that I, Kenneth Kryklywy, personally supervised the magnetic and electromagnetic surveys carried out on the Card Lake property in Black Township during the months of June and July, 1988.

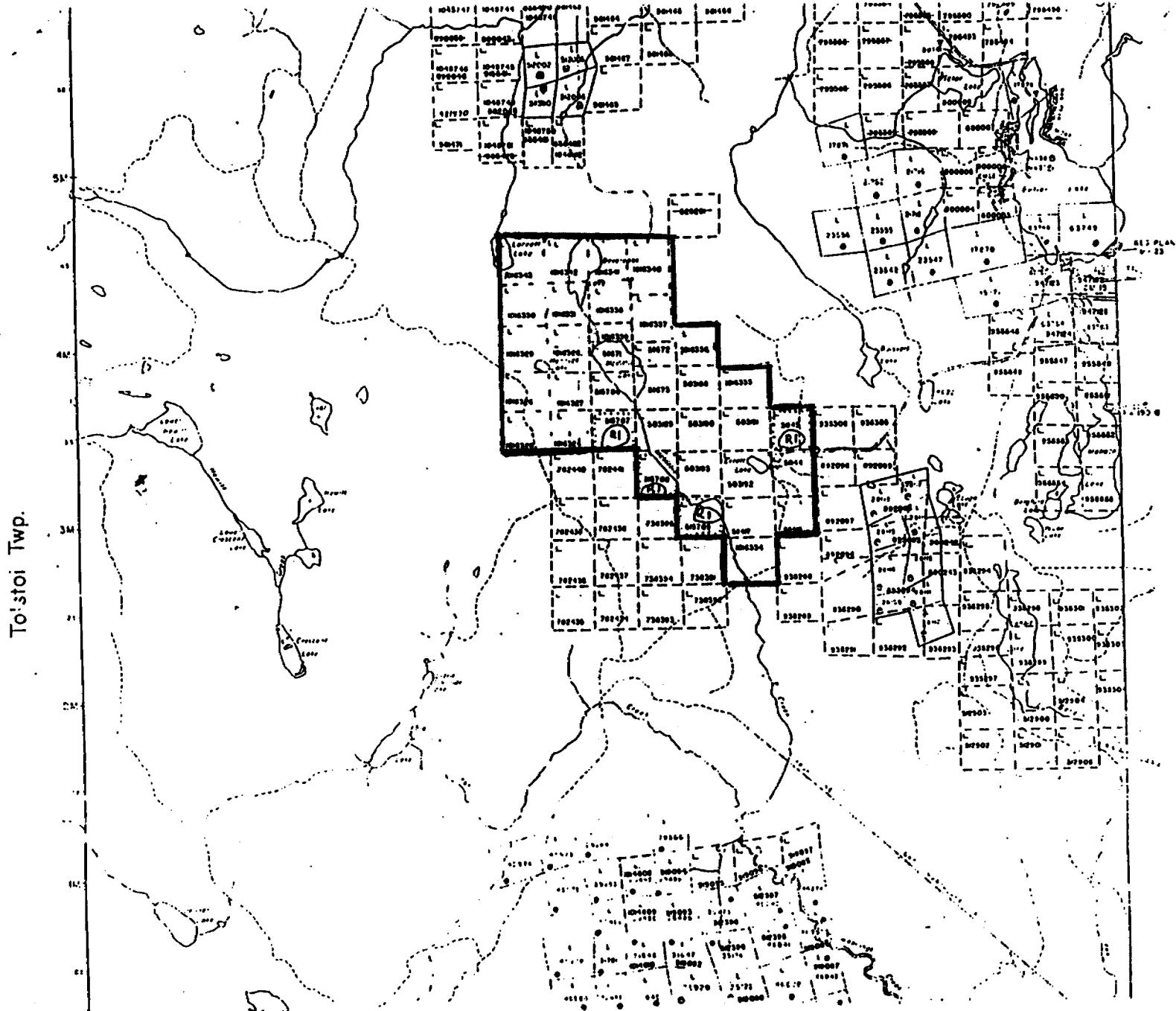
I am a registered professional engineer with A.P.E.O. and have practiced my profession as a mineral exploration geologist since 1979.

I am currently working as an exploration geologist for American Barrick Resources Corporation of Kirkland Lake, Ontario.



M. Kenneth Kryklywy P. Eng.





RAIL AND
 UTILITY LINES
 NON-PERENNIAL STREAMS
 FLOODING OR FLOODIN
 SUBDIVISION OR COMP
 RESERVATIONS
 ORIGINAL SHORELINE
 MARSH OR MUSKEG
 MINES
 TRAVERSE MONUMEN

DISPOSITION

TYPE OF DOCUMENT

- PATENT, SURFACE & A
- , SURFACE RIG
- , MINING RIG
- LEASE, SURFACE & MI
- , SURFACE RIG
- , MINING RIGHT
- LICENCE OF OCCUPAT
- ORDER-IN COUNCIL
- RESERVATION
- CANCELLED
- SAND & GRAVEL ...

NOTE: MINING RIGHTS
1913, VESTED IN
LAND ACT AS

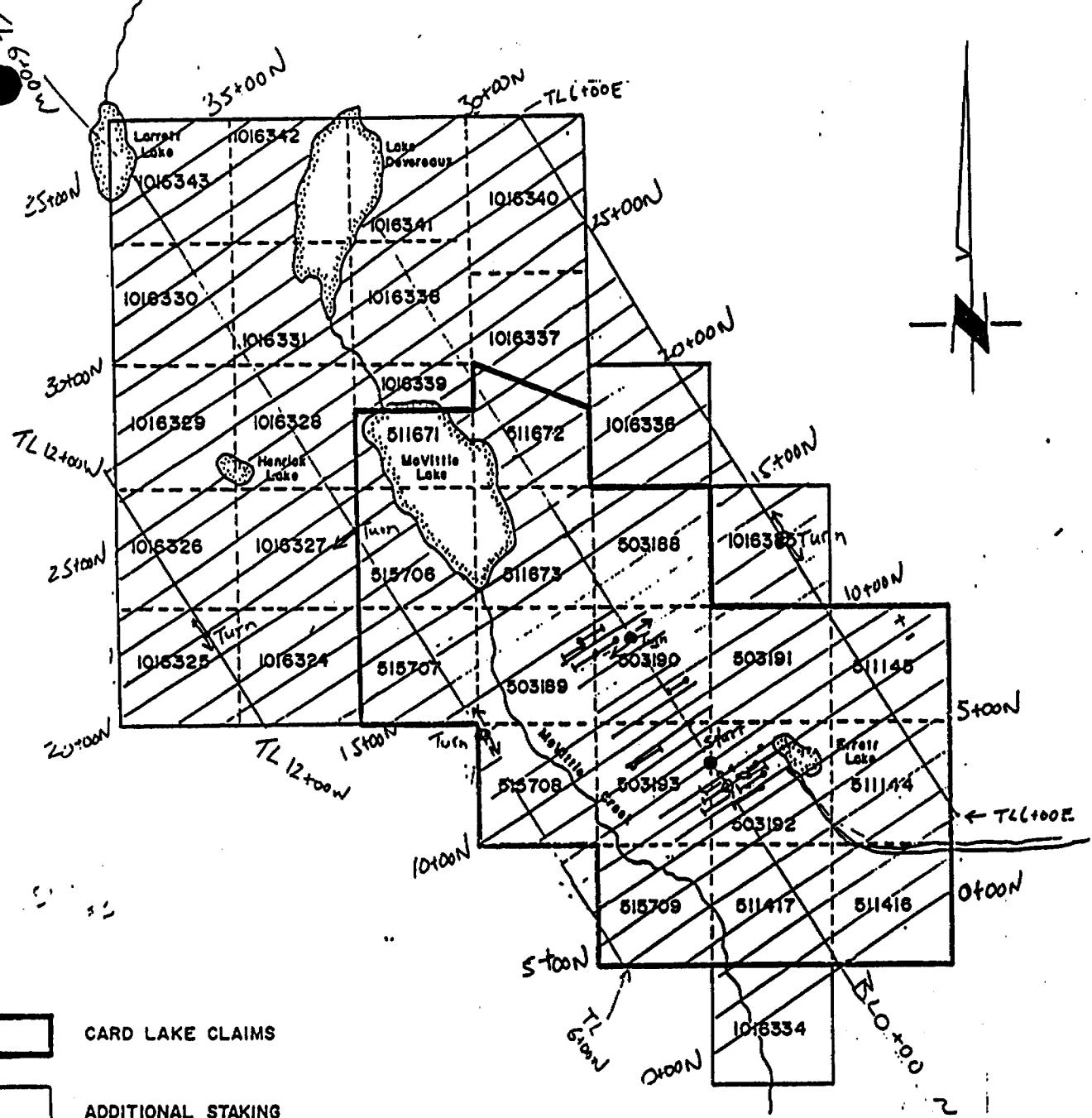
SCALE: 1 INCH = 4

FEET
 0 1000 2000
 METERS
 0 200

TOWNSHIP

BLACE

M.N.R. ADMINIST
 KIRKLAND
 MINING DIVISI
 LARDER L
 LAND TITLES / R
 COCHRANE



CARD LAKE CLAIMS

ADDITIONAL STAKING

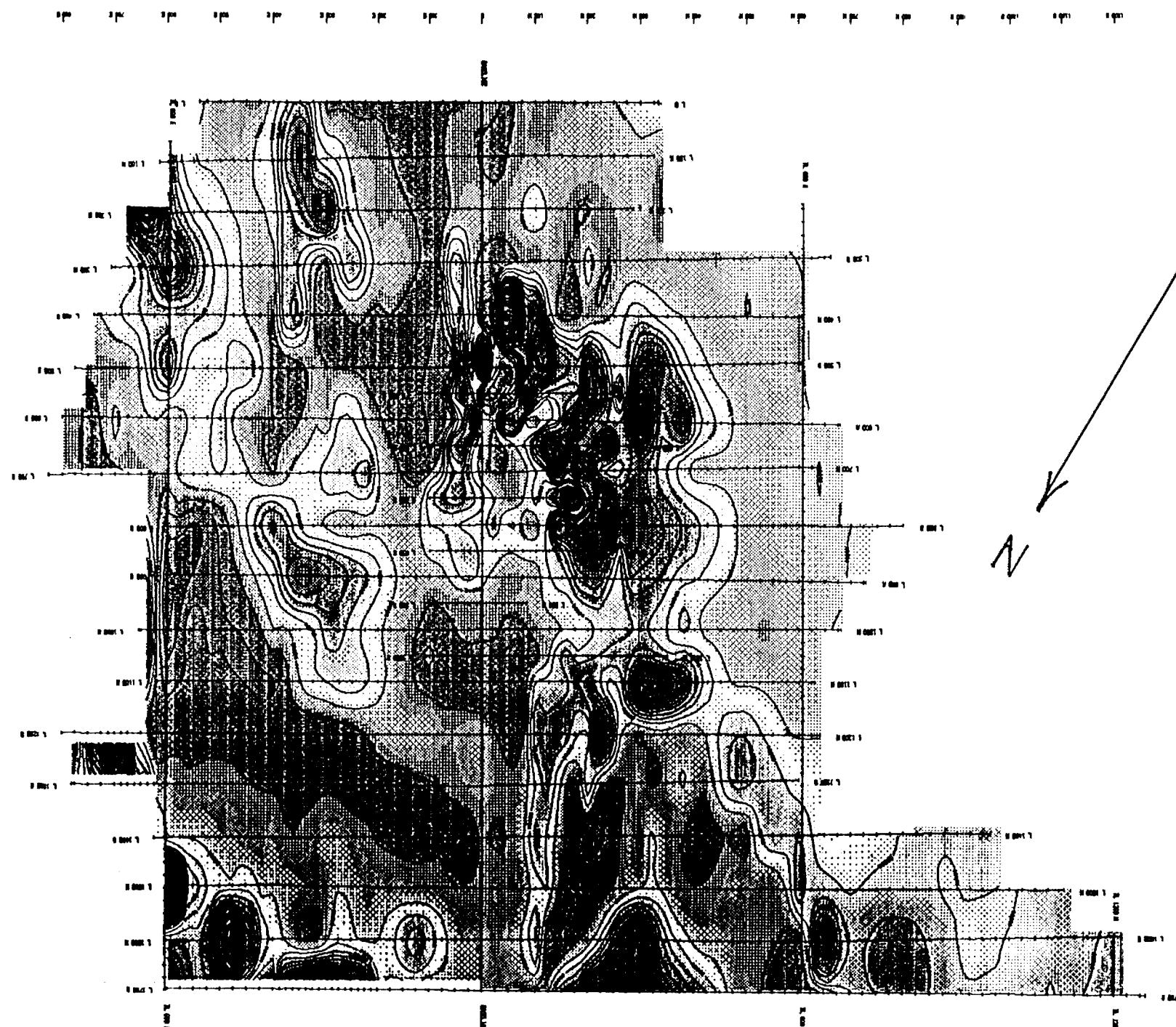
AMERICAN BARRICK RESOURCES CORPORATION

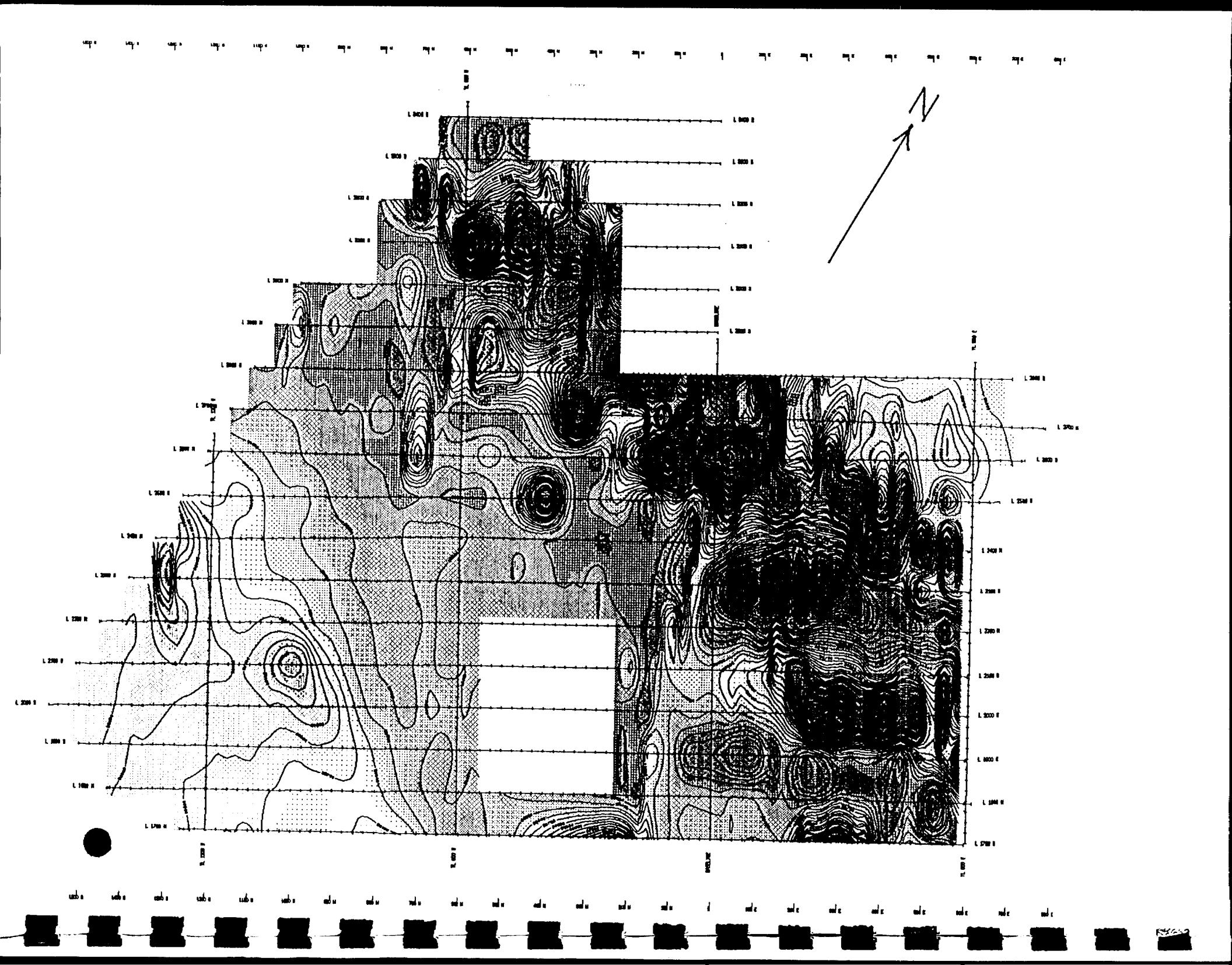
Card Lake Option - Black Township
Ontario

LOCATION MAP



DATE:	DRAWN BY: JX.	CHECKED BY: K.K.	NTS. NO.
-------	---------------	------------------	----------







Ontario



42A08SW0036 2.11855 BLACK

900

Ministry of
Northern Development
and Mines

Mining Lands Section
3rd Floor, 880 Bay Street
Toronto, Ontario
M5S 1Z8

Ministère du
Développement du Nord
et des Mines
January 9, 1989

Telephone: (416) 965-4888

Your File: W8808-537
Our File: 2.11855

Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

Re: Notice of Intent dated December 2, 1988
Geophysical (Magnetometer & VLF Electromagnetic) Survey
submitted on Mining Claims L 503188 et al in Black Township

The assessment work credits, as listed with the above-mentioned Notice of Intent have been approved as of the above date.

This approval replaces our letter dated December 19, 1988, for Geophysical (Magnetometer and Radiometric) Survey as there were errors in the technical data statement.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,


W.R. Cowan
Provincial Manager, Mining Lands
Mines & Minerals Division

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
OFFICE

JAN 11 1989

R E C E I V E D

SH:ma

c.c. Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

Resident Geologist
Kirkland Lake

Card Lake Resources Limited
Suite 1104
18 King Street East
Toronto, Ontario. M5C 1E4

Mr. Mario Duquette
304 Beauchastel Road
Granada, PQ
J0Z 2C0

Mr. Ken Kryklywy
c/o American Barrick Resources Corp.
P.O. Box 1203, 953 Government Road W.
Kirkland Lake, Ontario. P2N 3M7



Ontario Ministry of Northern Development and Mines

**Technical Assessment
Work Credits**

File
2.11855

Date
January 9, 1989

Mining Recorder's Report of
Work No.
W8808-537

AMENDED**Recorded Holder****Card Lake Resources Limited****Township or Area****Black Township**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ 20 days	L 503188 to 193 inclusive 511144-45 511416-17 511672-73
Magnetometer _____ 40 days	515707 to 709 inclusive 1016324 to 331 inclusive 1016335 to 340 inclusive
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/>	Airborne <input type="checkbox"/>
Special provision <input checked="" type="checkbox"/>	Ground <input checked="" type="checkbox"/>
<input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

20 days Magnetometer
10 days Electromagnetic

L 1016334-42-43

10 days Magnetometer
5 days Electromagnetic

L 511671
515706
1016341

No credits have been allowed for the following mining claims not sufficiently covered by the survey Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.



Ministry of
Northern Development
and Mines

**Geophysical-Geological-Geochemical
Technical Data Statement**

File _____

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) MAGNETOMETRE, VLF-EM

Township or Area BLACK TWP.

Claim Holder(s) AMERICAN BARRICK RESOURCES CORP.

Survey Company E. M. EXPLORATION SERVICES inc.

Author of Report MARIO DUQUETTE

Address of Author 304 BEAUCHASTEL RD., GRANADA, P.Q.

Covering Dates of Survey JUNE 7 - JULY 15, 1988

Total Miles of Line Cut 59.0 Km (36.6 miles)

**SPECIAL PROVISIONS
CREDITS REQUESTED**

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

Geophysical	DAYS per claim
- Electromagnetic	<u>20</u>
- Magnetometer	<u>40</u>
- Radiometric	
- Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer Electromagnetic Radiometric
(enter days per claim)

DATE: NOV. 7, 1988 SIGNATURE: K. Kuykewong
Author of Report or Agent

Res. Geol. Qualifications This file: 2.8920

Previous Surveys

File No.	Type	Date	Claim Holder
.....
.....
.....
.....
.....

MINING CLAIMS TRAVESED
List numerically

L- S03188	(prefix)	(number)
S03189		
S03190		
S03191		
S03192		
S03193		
S11144		
S11145		
S11416		
S11417		
S11672		
S11673		
S15706		
S15707		
S15708		
S15709		
1016324		
1016325		
1016326		
1016327		
1016328		
1016329		
TOTAL CLAIMS 35		

* See attached sheet

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS — If more than one survey, specify data for each type of survey

Number of Stations 1997. Number of Readings 1997

Station interval 25.0 metres Line spacing 100 m

Profile scale 1cm = 20% — for VLF-EM survey

Contour interval 100 gammas — for mag survey

Instrument E.D.A. OMNI IV

Accuracy — Scale constant 0.1 gammas

Diurnal correction method _____

Base Station check-in interval (hours) automatic reading (PPM 375 by EPA) at one minute intervals.

Base Station location and value
— centre of Card Lake property

Instrument GEOGNICS Em. 16

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency N.S.S. Annapolis, Maryland (specify V.L.F. station) (21.4 KHz)

Parameters measured V.L.F. E.M.

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

Instrument _____

Method Time Domain Frequency Domain

Parameters — On time _____ Frequency _____

— Off time _____ Range _____

— Delay time _____

— Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

MAGNETIC

ELECTROMAGNETIC

GRAVITY

INDUCED POLARIZATION

RESISTIVITY

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____
(type, depth - include outcrop map)**OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)**

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____
(specify for each type of survey)Accuracy _____
(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

Total Number of Samples _____

Type of Sample. _____
(Nature of Material)

Average Sample Weight. _____

Method of Collection._____

Soil Horizon Sampled _____

Horizon Development_____

Sample Depth. _____

Terrain.—

Drainage Development

Estimated Range of Overburden Thickness

ANALYTICAL METHODS

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (tests)

Extraction Method _____

Analytical Method_____

Reagents Used _____

Field Laboratory Analysis

No. (_____) tests

Extraction Method _____

SAMPLE PREPARATION

Mesh size of fraction used for analysis

General _____

Commercial Laboratory (tests)

Name of Laboratory _____

Extraction Method _____


Analytical Method _____


Reagents Used


General _____


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
511671




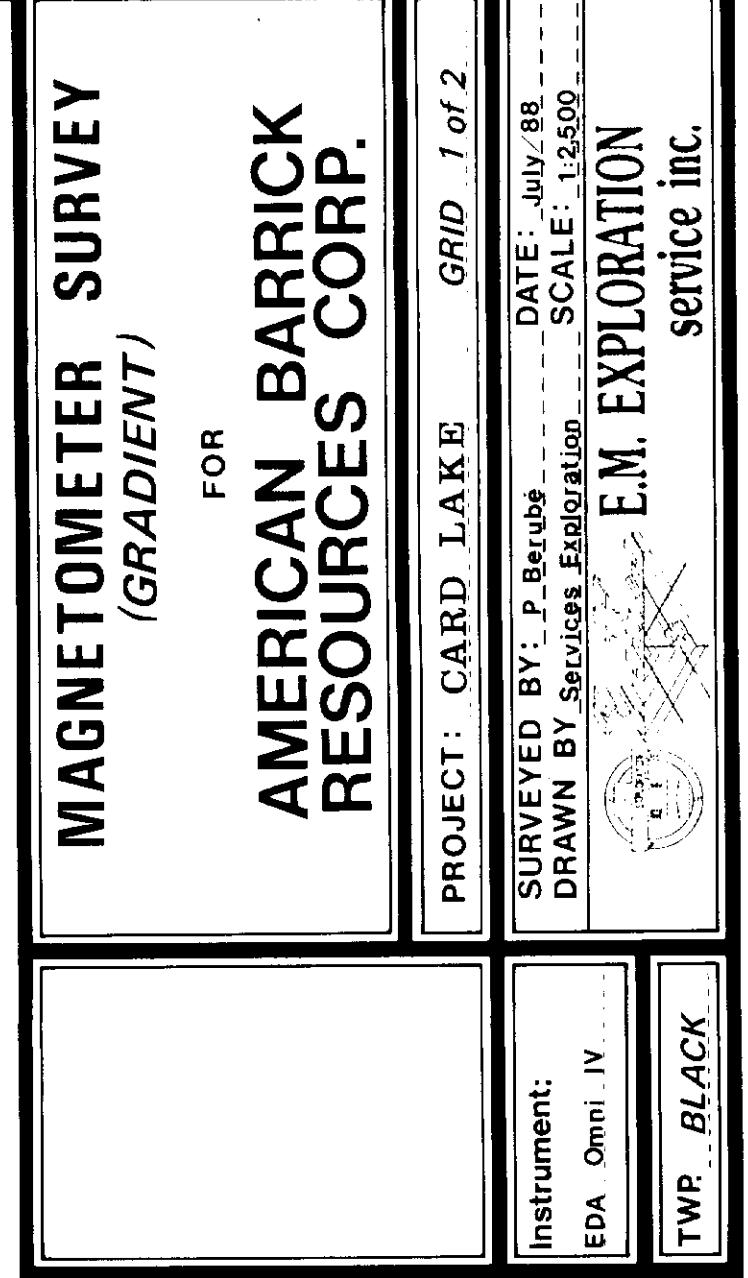

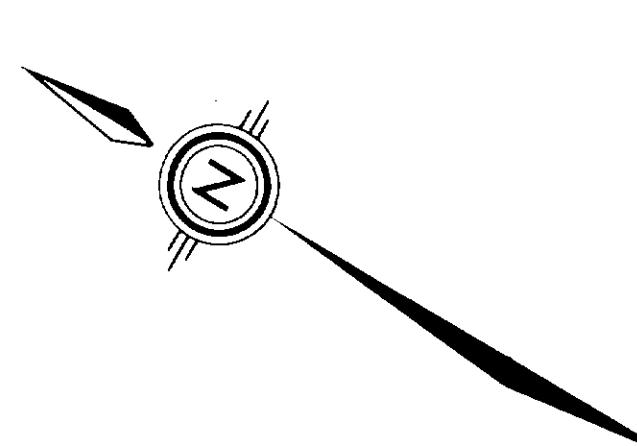
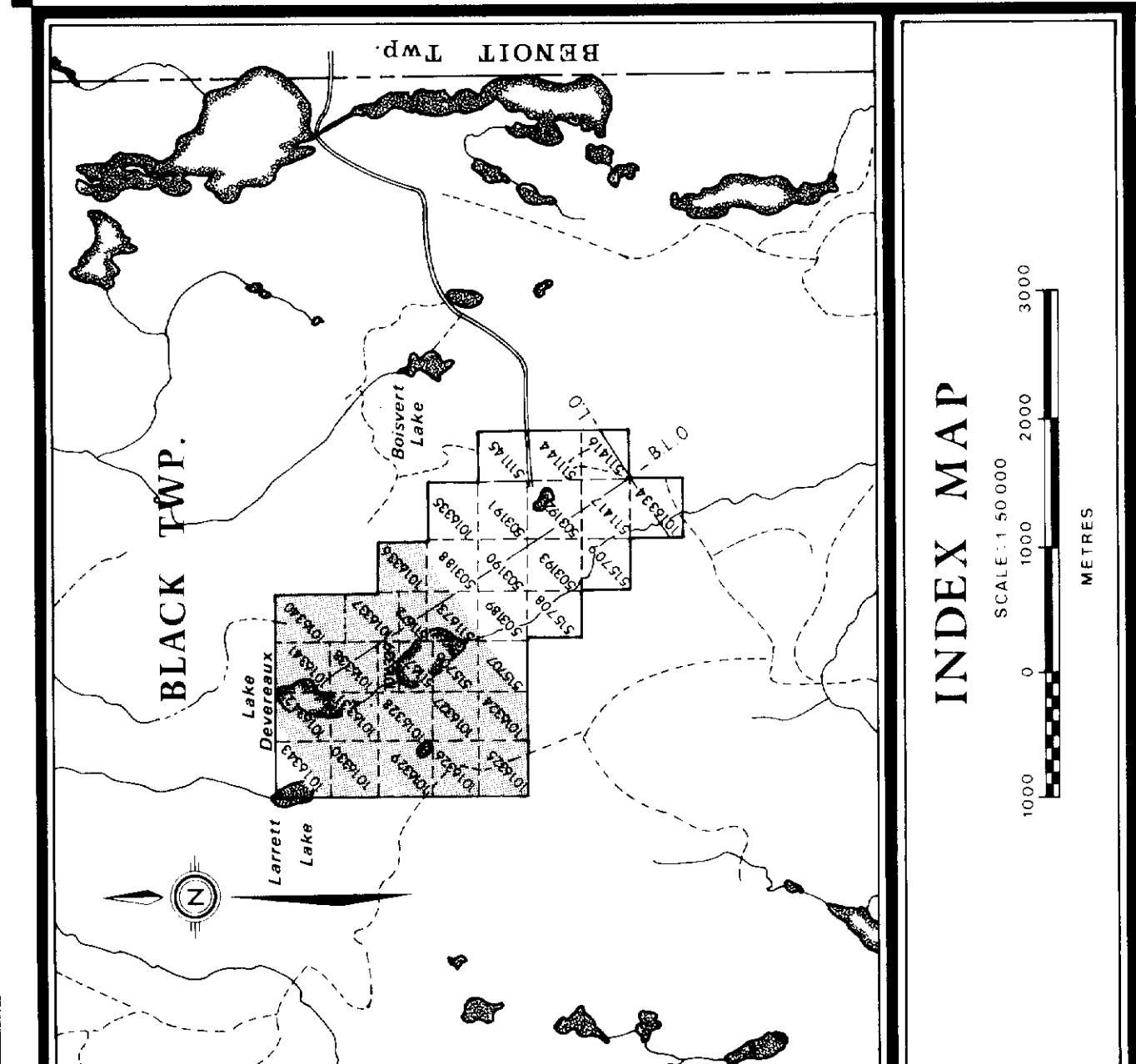


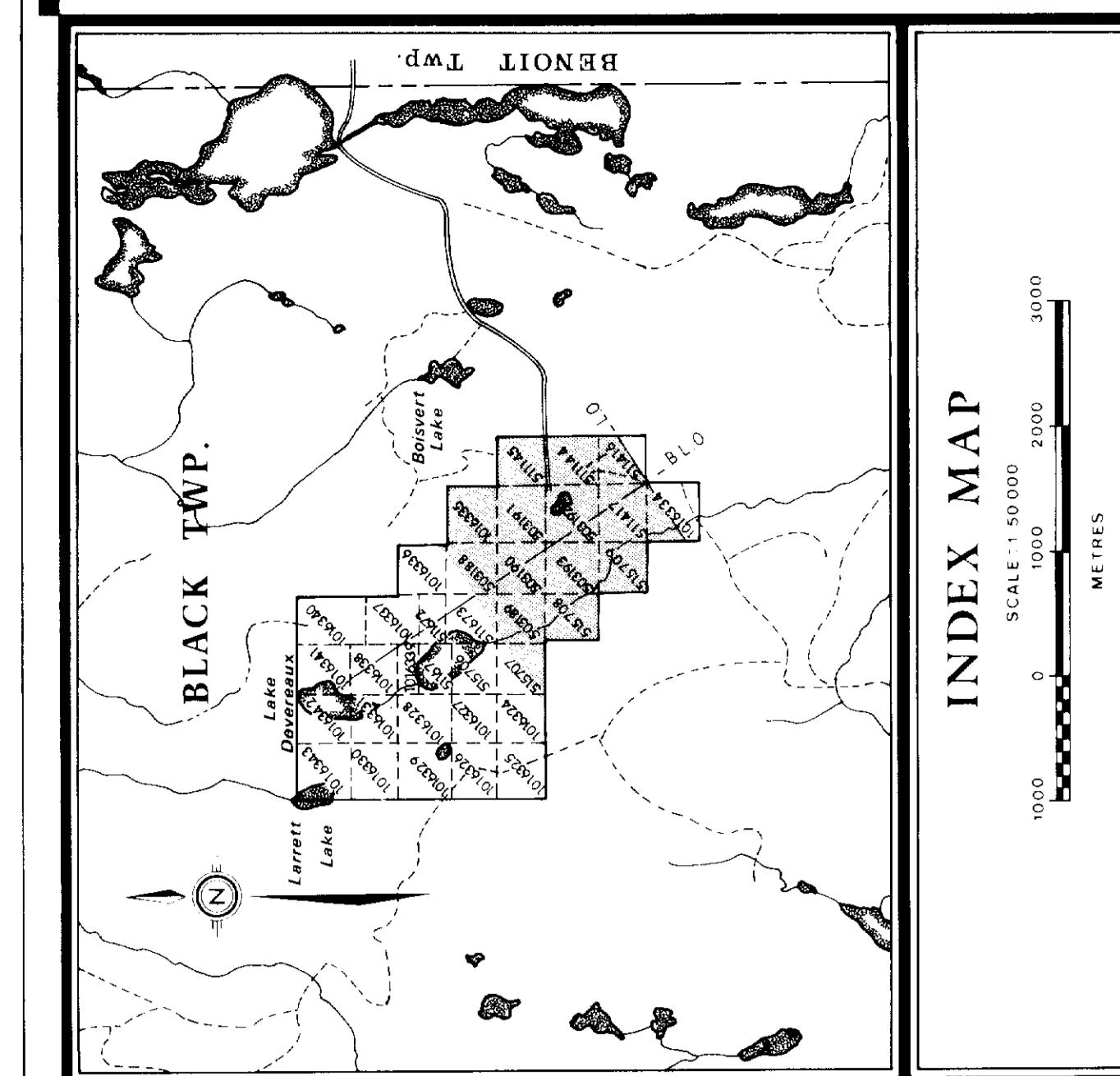





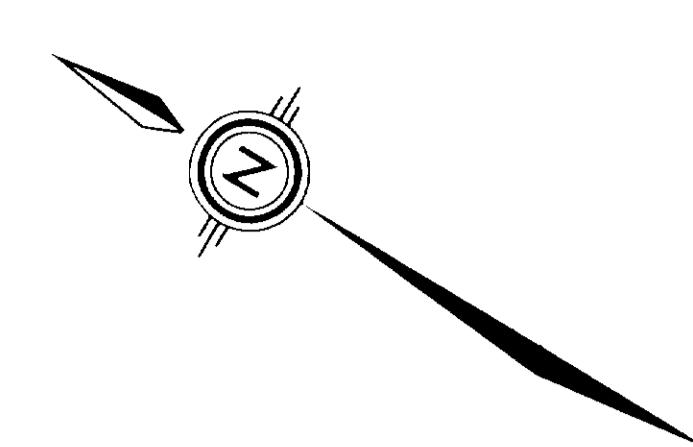








INDEX MAP


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Metres


**MAGNETOMETER SURVEY
(GRADIENT)**


FOR
**AMERICAN BARRICK
RESOURCES CORP.**


PROJECT: CARD LAKE
GRID: 2 of 2
DRAWN BY: E. M. Services
SCALE: 1:2000000
DATE: July 1988
SERIAL: 12590
INSTRUMENT: EDA Omni IV
FIR: BLACK


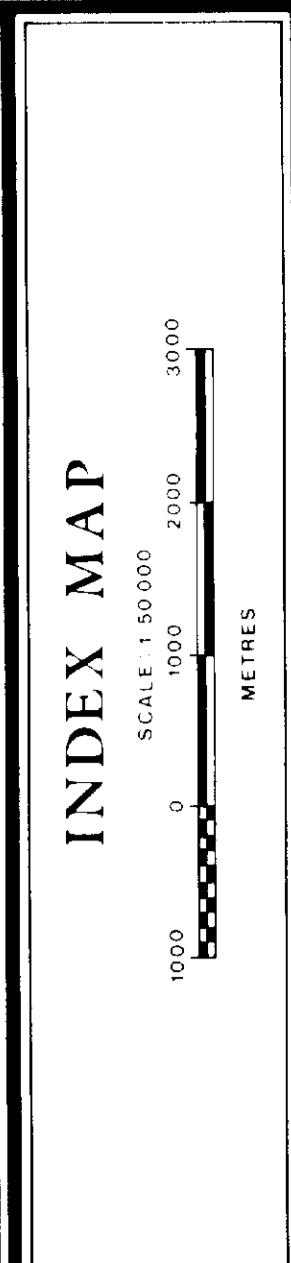
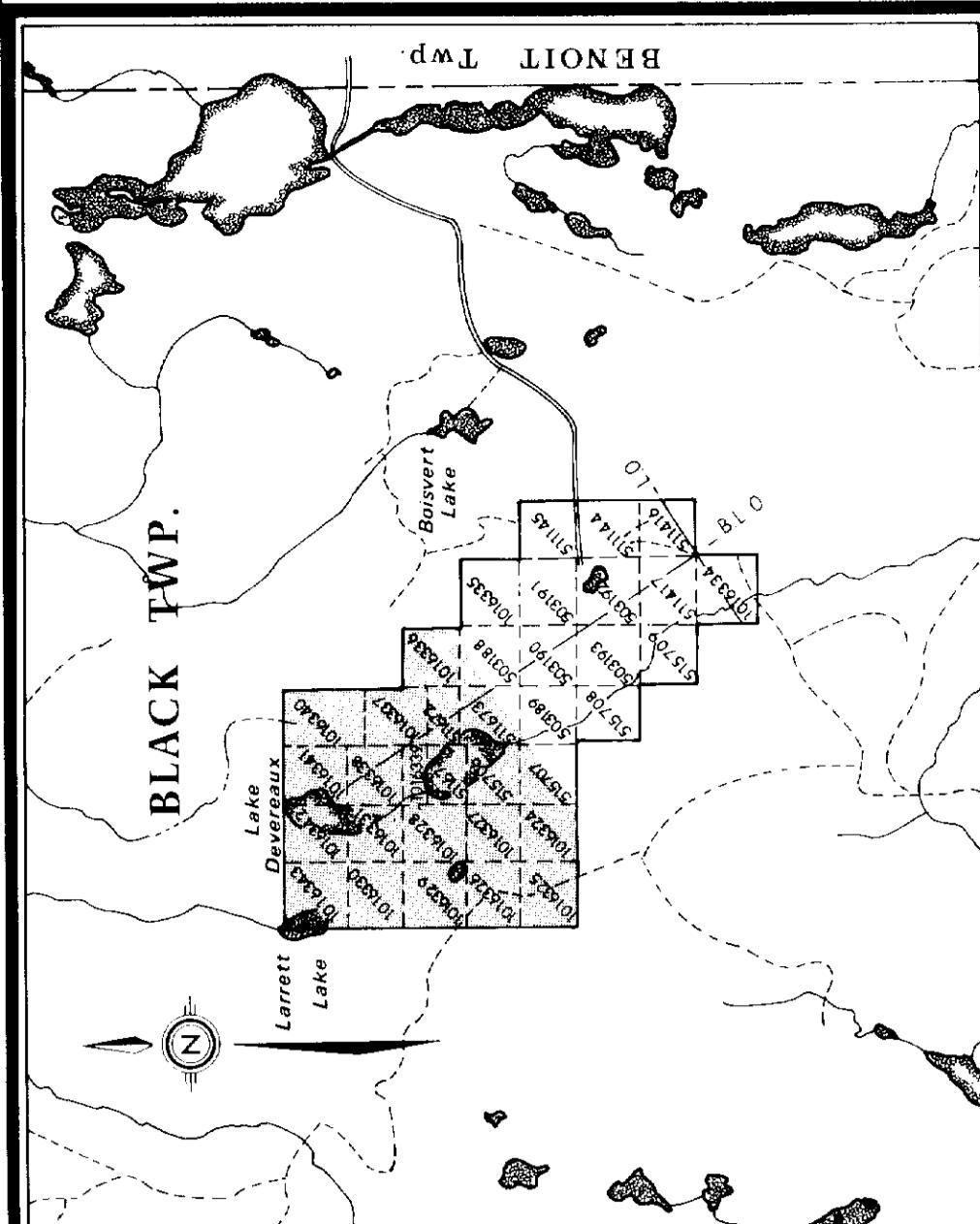












**ELECTROMAGNETIC SURVEY
(FRAZER FILTER)**

**AMERICAN BARRICK
RESOURCES CORP.**

PROJECT: CARD LAKE

GRID 1 of 2

**Surveyed by T.W. Deneke
Drawn by F. Ferguson**

Scale: 1:50,000

Instrument: EM-16

Sections: EN-16

Twp: BLACK

